Tribal Participation In Implementation Of The U.S./Canada Pacific Salmon Treaty

Introduction

Adult salmon returning to most western Washington streams migrate through both U.S. and Canadian waters, and are harvested by fishermen from both countries. For decades, there were no restrictions on the interception of returning salmon by fishermen of neighboring countries. Conservation goals and the right of each nation to reap the benefits of its own fisheries enhancement and restoration efforts were severely undermined as a result.

In 1985, after two decades of discussions, the Pacific Salmon Treaty (PST) was created through the cooperative efforts of the tribes, state governments, U.S. and Canadian governments, and sport and commercial fishing interests.

The Pacific Salmon Commission (PSC) was created by the United States and Canada to implement the treaty. The PSC establishes fishery and allocation regimes, develops management recommendations and is the countries' forum to reach agreement on mutual fisheries issues. An eight-member bilateral body that includes representatives of tribal, state and federal governments governs the PSC. Four regional panels composed of fisheries managers and industry representatives advise the PSC on policy matters. Technical support for both the Commission and Panels come from four technical committees, which are species specific in focus.

As co-managers of the fishery resources in western Washington, tribal implementation of the PST is critical to achieve the shared goals of the PST in protecting, sharing and restoring salmon resources. In addition to serving at the policy level on the PSC and its panels, tribal representatives also participate on the many committees and work groups that provide technical support to implement the treaty.

Squaxin Island tribal staff haul a smolt trap up Goldsborough Creek. *Photo: E. O'Connell*

Policy And Process

Successful implementation of the PST requires the tribes to develop, whenever possible, a unified position on issues addressed by the PSC. The treaty provides for tribal policy representation at all levels of the PSC structure. The western Washington tribes are fully engaged in PST implementation and process activities. Timely policy coordination between the tribes and the other U.S. PSC representatives is essential. This coordination and communication affords the U.S. Section and U.S. PSC Representatives the flexibility necessary to be effective and efficient negotiators within the bilateral process.

NWIFC staff facilitate inter-tribal and inter-agency meetings, develop issue papers and analysis of strategies and negotiation options, and provide technical advice to the tribes and tribal PSC representatives. An extensive amount of time is devoted to ensure the tribes and their policy representatives are informed on the issues affected by the PST implementation process.

An NWIFC policy analyst serves as the "shadow" for PSC Commissioner Wm. "Ron" Allen, assisting him with policy issues pertaining to the PSC process. The policy analyst also prepares meeting announcements, briefing reports on key issues and other materials to keep concerned tribes informed.

Technical Implementation

NWIFC staff played key roles in the implementation of the Pacific Salmon Treaty in FY03 through their involvement on several committees and working groups within the PSC structure. Staff held positions as U.S. chair of the Fraser Panel Technical Committee, and co-chair of the Joint Chum Technical Committee. Staff served on several other committees and working groups, including the Chinook Technical Committee, the Selective Fishery Evaluation Committee, the Coho Technical Committee, and the Working Groups on Mark-Recovery Statistics and Data Standards.

Research Projects And Data Gathering Activities

Fisheries research is an integral part of treaty implementation. The tribes have designated a substantial portion of their PST funding to conduct the necessary research, data collection, and fishery monitoring activities needed to manage salmon fisheries in the context of the PST.

Indicator Stock Tagging And Recovery Projects

Hatchery Indicator Stock Tagging And Recovery Program (NWIFC)

This program is responsible for tagging the tribal hatchery salmon stocks that are part of the coastwide PST chinook and coho exploitation indicator stock program. The intent of the program is to ensure that each wild or hatchery production stock grouping has a representative hatchery stock that is being coded wire tagged (CWT). Subsequent tag recovery information allows the PSC chinook and coho technical committees to develop fishery statistics used to monitor and evaluate the impact of fisheries on wild stocks and evaluate rebuilding programs. More than 2 million fish (1,530,000 chinook and 640,000 coho) from 11 tribal hatcheries are annually tagged for the program. This includes six chinook stocks and eight coho stocks.

Wild Indicator Stock Studies

Four of the chinook tag groups are derived from wild brood-stocking efforts. Since wild chinook smolts are too sensitive to capture and tag, the intent is to mark a group that represents wild fish to the best extent possible. In these studies, wild adult chinook spawners are captured and brought into a hatchery for spawning. The subsequent progeny are incubated, reared, and coded wire tagged. After tagging, the fish are transferred to an imprinting pond adjacent the native river, where the fish are released at a size and time consistent with the wild chinook migration. Indicator stock programs include:

- Skagit River Summer Chinook Indicator Stock Study (Skagit System Cooperative)
- Stillaguamish River Native Chinook Indicator Stock Study (Stillaguamish Tribe)
- Hoko River Fall Chinook Indicator Stock Study (Makah Tribe)
- Queets River Wild Fall Chinook Indicator Stock Study (Quinault Indian Nation)

All of these projects include spawning surveys to estimate escapement and recover CWTs.

One wild coho indicator stock study is conducted by the Quinault Indian Nation. Queets River wild coho smolts are annually captured and tagged to provide an indicator stock of naturally-produced coho salmon from the north Washington coast.

Tribal Projects

Stock Restoration Studies

Skagit River Chinook Restoration Project (Skagit System Cooperative: Upper Skagit, Swinomish and Sauk-Suiattle Tribes)

This project's purpose is to develop an analytical model to evaluate proposed actions to restore Skagit River chinook. The project will facilitate thorough evaluation of harvest, habitat, and hatchery actions to achieve the PST objective of stopping chinook declines.

Dungeness Chinook Tagging Project (Jamestown S'Klallam Tribe)

A captive broodstock program was started in 1991 to save Dungeness chinook from extinction. This multi-agency program is an experimental model for critical stock restoration and involves coded wire tagging captive broodstock offspring. Tag recovery data from fishery monitoring will assist in assessing interception rates in all fisheries, evaluating different release strategies, and determining spawner success.

Natural Production And Habitat Assessment Studies

Natural Production Of Coho Smolts In The Queets River (Quinault Indian Nation)

The overall goal of this project is to bring together habitat and fish production data to guide enhancement actions to improve Queets River coho production. Specific objectives include analyzing habitat and production data from more than 10 years of studies in the Queets River basin; maintaining the long-term database on Queets coho production, and developing analytical tools to direct enhancement efforts in the basin.

South Puget Sound Coho Production Investigation (Squaxin Island Tribe)

This study evaluates outmigration timing of coho production from five South Puget Sound streams flowing into Hammersly Inlet/Oakland Bay and Totten/Skookum Inlets. This study uses weirs and mark/recapture methodology to count outmigrating coho smolts. Data is used to estimate natural coho production, help develop a spawner/recruit relationship, and help refine spawning escapement goals.

Nooksack River Salmon Smolt Production Study (Lummi Nation and Nooksack Tribe)

This project's objective is to estimate natural origin chinook smolt production in the Nooksack River. Outmigrating smolts will be trapped with a screwtrap. The trap data will be used to develop index production estimates and allow for investigations to determine if inter- and intra-specific co-occurrence is evident during migration. This information will also be used to monitor and assist with harvest management and ESA recovery studies.

Quillayute River Natural Coho Production Study (Quileute Tribe)

The objective of this project is to monitor and evaluate Quillayute River natural fall coho production in conjunction with ocean and terminal fisheries. Data analysis from this and other projects provide wild escapement estimates, terminal and pre-terminal harvest rates, and spawner-recruit relationships.

Puyallup River Smolt Production Assessment (Puyallup Tribe)

The objective of this project is to assess natural smolt production in the Puyallup River System through the use of a smolt trap. The information will provide more accurate forecasting of natural adult production by removing both the variation in survival from egg to smolt and escapement estimation error from the forecast. The refined escapement estimates will provide for better estimates of stock productivity which will allow managers to calculate production based management and escapement objectives.

Spawning Escapement Evaluation Studies

Nooksack River Chinook Escapement Study (Nooksack Tribe)

This study is designed to estimate the escapement of spring chinook in the Nooksack Basin. Age determination of adult escapement will be estimated through the recovery of coded wire tags, otolith marks, and fish scales. Data collected will be analyzed for potential straying, hatchery/wild ratios, sex ratios, and migrational timing differences between different races of chinook.

East Kitsap Coho Escapement Study (Suquamish Tribe)

Few escapement estimates of naturally spawning coho have been conducted in Puget Sound. The aim of this project is to determine potential fishery management constraints needed to address concerns for south Puget Sound wild coho stocks.

Hatchery Chinook Straying In The Nisqually Basin (Nisqually Tribe)

The Nisqually Tribe operates two chinook production facilities that annually produce more than 3 million smolts. The tribe wants to determine the extent and nature of adult hatchery chinook straying in the watershed and to what extent, if any, straying is impacting natural production.

Chinook Spawner Surveys In Lake Washington/Green River Basins (Muckleshoot Tribe)

The objective of this project is to improve the estimation of chinook spawning in the Lake Washington and Green River basins. The counting methodology used in this project will result in improved estimates of true natural escapement. Which in turn should result in better return rate estimates and provide more information about wild/hatchery interactions.

Estimate Total Natural Coho Spawning Escapement In Strait Of Juan de Fuca Streams (Makah Tribe and Lower Elwha Klallam Tribe)

The objective of this project is to use a stratified random methodology to estimate coho spawner abundance within the Strait of Juan de Fuca region. This methodology allows spawner surveys to utilize index reaches based upon habitat stratification. The project is also collecting corresponding productivity information using smolt out-migration trapping in selected watersheds. This information will be used to estimate freshwater productivity and spawner/recruit relationships.

Fishery Monitoring Projects

Assessment Of Terminal Fishery Stock Composition Of Coho Salmon In The Stillaguamish/Snohomish Region (Tulalip Tribes)

This project will augment coded wire sampling in terminal area fisheries to assure sufficient effort is directed at the recovery of previously released tags from Tulalip Hatchery and other tags representing other production that may be contributing to terminal area fisheries. The project also involves conducting test fisheries in area 8A to develop a standardized time series of catch-per-unit effort and stock composition information during the six-week coho management period.

Monitoring And Sampling Of Hood Canal Commercial Coho Fisheries (Skokomish Tribe)

The recent ESA listing of Hood Canal summer chum means management actions may be needed to protect these stocks in Canadian and U.S. fisheries. This project determines run timing and incidental summer chum harvests during Hood Canal coho fisheries to help managers more effectively regulate fisheries to protect summer chum.

Estimation Of Port Gamble S'Klallam Tribal Coho Stocks To Treaty And Non-Treaty U.S./Canada Fisheries (Port Gamble S'Klallam Tribe)

This study involves sampling the treaty/non-treaty harvest of coho salmon in Hood Canal, Port Gamble Bay and the Strait of Juan de Fuca for coded wire tagged fish. The gathered data will be used to estimate catch, collect biological information and determine the contribution of Port Gamble net pen coho and other Hood Canal coho stocks to U.S. and Canadian fisheries. Information also will be used to evaluate the double-index tagging (DIT) methodology, which was developed to assess the impact of marked selective fisheries.

Habitat Improvement Projects Stillaguamish Culvert Analysis and Repair (Stillaguamish Tribe)

The purpose of this project is to increase coho production in the Stillaguamish watershed by inventorying and replacing habitat-blocking culverts. Problematic culverts are identified and inventoried in a database. Culvert projects will be prioritized in terms of costs/benefits to fish populations. Culvert repair work is largely being done in cooperation with other agencies and groups. Spawning surveys are scheduled to conduct the inventory methodology and evaluate utilization of the opened habitat.

For More Information

For more information about the natural resource management activities of the treaty Indian tribes in western Washington, contact the Northwest Indian Fisheries Commission, 6730 Martin Way E., Olympia, WA., 98516; or call (360) 438-1180. Visit the NWIFC home page at www.nwifc.org.